ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU

Product Guide

The ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU is a powerful, low-profile GPU purpose-built for demanding edge computing applications. Powered by the NVIDIA Ada Lovelace GPU architecture, it contains 2,816 CUDA cores, 88 fourth-generation Tensor Cores, 22 third-generation RT cores, and 16GB of GDDR6 memory with ECC support into a compact, single-slot form factor.

The RTX 2000E GPU delivers the performance, AI capabilities, enterprise reliability, and features professionals need in a small-form-factor solution.

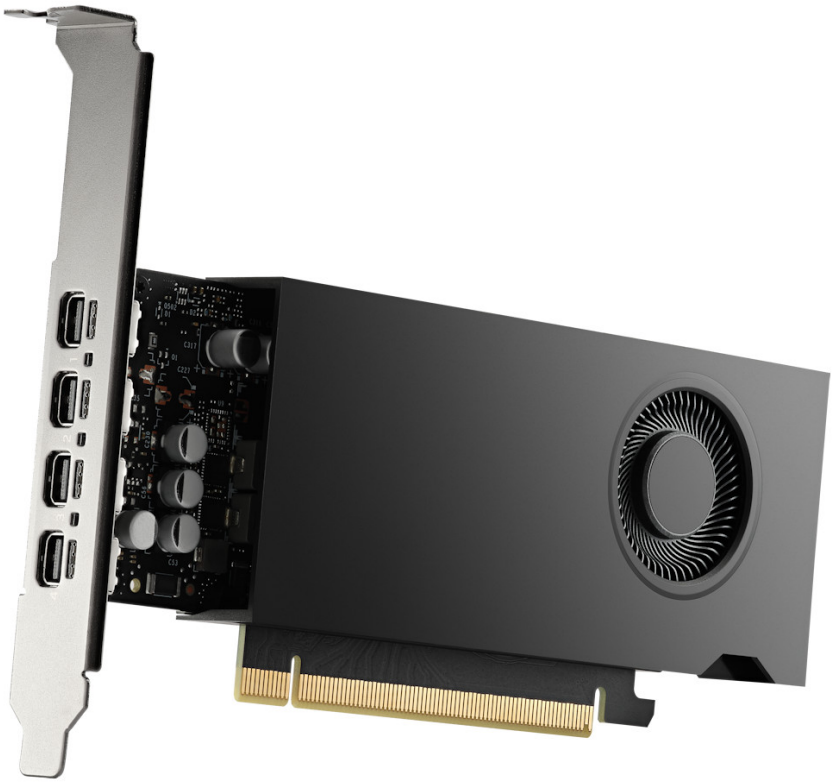

Figure 1. ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU

Did you know?

NVIDIA RTX professional graphics cards are certified for a broad range of professional applications, tested by leading independent software vendors (ISVs) and workstation manufacturers, and backed by a global team of support specialists. Get the peace of mind to focus on what matters with the premier visual computing solution for mission-critical business.

Part number information

The following table shows the part numbers for the RTX 2000E GPU.

Table 1. Ordering information

Part number	Feature code	Description	NVIDIA part number	Controlled GPU status
4X67A96430	C39P	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	900-5G192-2720-E00	No

The RTX 2000E GPU is not Controlled which means the GPU is unrestricted and is available in all markets.

The option part numbers includes the following:

- One RTX 2000E GPU
- Full-height (3U) and Low profile (2) adapter brackets
- Documentation flyer

Technical specifications

The RTX 2000E GPU is an efficient, single slot edge solution for for accelerating graphics, AI and compute workloads. From powering medical devices and advanced digital displays to enabling cutting-edge robotics, the RTX 2000E brings the power of real-time ray tracing, accelerated computing, and accelerated AI capabilities to a wide range of embedded and edge systems.

The following table lists the specifications of the RTX 2000E GPU.

Table 2. RTX 2000E GPU specifications

Feature	**Specification**
GPU Architecture	NVIDIA Ada Architecture
GPU Memory	16 GB GDDR6
Memory Interface	128-bit
Memory Bandwidth	224 GB/s
ECC	Yes
NVIDIA CUDA Cores	2,816 Ada CUDA Cores
NVIDIA Tensor Cores	88 fourth-generation Tensor Cores
NVIDIA RT Cores	22 third-generation RT Cores
Peak FP32 Single-Precision Performance	8.9 TFLOPS (peak)
Peak RT Core performance	20.5 TFLOPS (peak)
FP8 Tensor Performance	142 TFLOPS (peak) (with sparsity)
INT8 Tensor Performance	142 TOPS (peak) (with sparsity)
NVLink support	No
Host Interface	PCI Express 4.0 x8
Power Consumption	50 W
Thermal Solution	Active cooling
Form Factor	2.7” H x 6.6” L (Low Profile), single slot
Display Connectors	4x Mini DisplayPort (mDP) 1.4a
Maximum simultaneous displays	4x 4096 x 2160 @ 120 Hz 4x 5120 x 2880 @ 60 Hz 2x 7680 x 4320 @ 60 Hz
Encode / Decode Engines	1x encode, 1x decode (+AV1 encode and decode)
VR Ready	No
Graphics APIs	DirectX 12, Shader Model 6.6, OpenGL 4.6, Vulkan 1.3
Compute APIs	CUDA 11.6, DirectCompute, OpenCL 3.0

Server support

The following tables list the ThinkSystem servers that are compatible.

Table 3. Server support (Part 1 of 5)

Part Number	Description	AMD V3				2S Intel V3/V4						Multi Node V3			1S V3			
		SR635 V3 (7D9H / 7D9G)	SR655 V3 (7D9F / 7D9E)	SR645 V3 (7D9D / 7D9C)	SR665 V3 (7D9B / 7D9A)	ST650 V3 (7D7B / 7D7A)	SR630 V3 (7D72 / 7D73)	SR650 V3 (7D75 / 7D76)	SR630 V4 (7DG8 / 7DG9)	SR650 V4 (7DGC / 7DGD)	SR650a V4 (7DGC / 7DGD)	SD535 V3 (7DD8 / 7DD1)	SD530 V3 (7DDA / 7DD3)	SD550 V3 (7DD9 / 7DD2)	ST45 V3 (7DH4 / 7DH5)	ST50 V3 (7DF4 / 7DF3)	ST250 V3 (7DCF / 7DCE)	SR250 V3 (7DCM / 7DCL)
4X67A96430	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 4. Server support (Part 2 of 5)

Part Number	Description	4S 8S Intel V3/V4					GPU Rich							Edge					
		SR850 V3 (7D97 / 7D96)	SR860 V3 (7D94 / 7D93)	SR950 V3 (7DC5 / 7DC4)	SR850 V4 (7DJT / 7DJS)	SR860 V4 (7DJQ / 7DJN)	SR670 V2 (7Z22 / 7Z23)	SR675 V3 (7D9Q / 7D9R)	SR680a V3 (7DHE)	SR680a V3 B200 (7DM9)	SR685a V3 (7DHC)	SR780a V3 (7DJ5)	SR680a V4 (7DMK)	SE100 (7DGR)	SE350 (7Z46 / 7D1X)	SE350 V2 (7DA9)	SE360 V2 (7DAM)	SE450 (7D8T)	SE455 V3 (7DBY)
4X67A96430	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	N	N	N	N	N	N	N	N	N	N	N	N	1	N	N	N	N	N

Table 5. Server support (Part 3 of 5)

Part Number	Description	Super Computing							1S Intel V2			2S Intel V2			AMD V1			
		SC750 V4 (7DDJ)	SC777 V4 (7DKA)	SD665 V3 (7D9P)	SD665-N V3 (7DAZ)	SD650 V3 (7D7M)	SD650-I V3 (7D7L)	SD650-N V3 (7D7N)	ST50 V2 (7D8K / 7D8J)	ST250 V2 (7D8G / 7D8F)	SR250 V2 (7D7R / 7D7Q)	ST650 V2 (7Z75 / 7Z74)	SR630 V2 (7Z70 / 7Z71)	SR650 V2 (7Z72 / 7Z73)	SR635 (7Y98 / 7Y99)	SR655 (7Y00 / 7Z01)	SR645 (7D2Y / 7D2X)	SR665 (7D2W / 7D2V)
4X67A96430	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 6. Server support (Part 4 of 5)

Part Number	Description	Dense V2				4S V2		8S	4S V1			1S Intel V1			
		SD630 V2 (7D1K)	SD650 V2 (7D1M)	SD650-N V2 (7D1N)	SN550 V2 (7Z69)	SR850 V2 (7D31 / 7D32)	SR860 V2 (7Z59 / 7Z60)	SR950 (7X11 / 7X12)	SR850 (7X18 / 7X19)	SR850P (7D2F / 2D2G)	SR860 (7X69 / 7X70)	ST50 (7Y48 / 7Y50)	ST250 (7Y45 / 7Y46)	SR150 (7Y54)	SR250 (7Y52 / 7Y51)
4X67A96430	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Table 7. Server support (Part 5 of 5)

Part Number	Description	2S Intel V1								Dense V1			
		ST550 (7X09 / 7X10)	SR530 (7X07 / 7X08)	SR550 (7X03 / 7X04)	SR570 (7Y02 / 7Y03)	SR590 (7X98 / 7X99)	SR630 (7X01 / 7X02)	SR650 (7X05 / 7X06)	SR670 (7Y36 / 7Y37)	SD530 (7X21)	SD650 (7X58)	SN550 (7X16)	SN850 (7X15)
4X67A96430	ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU	N	N	N	N	N	N	N	N	N	N	N	N

Operating system support

The following table lists the supported operating systems:

Tip: These tables are automatically generated based on data from Lenovo ServerProven.

Table 8. Operating system support for ThinkSystem NVIDIA RTX 2000E Ada 16GB PCIe Active GPU, 4X67A96430

Operating systems	SE100
Microsoft Windows 11	Y
Ubuntu 24.04.2 LTS or later with HWE kernel	Y
Ubuntu 24.04 LTS or later with HWE kernel	Y

NVIDIA GPU software

This section lists the NVIDIA software that is available from Lenovo.

- NVIDIA HPC Compiler Software

NVIDIA HPC Compiler Software

Table 9. NVIDIA HPC Compiler

Part number	Feature code 7S09CTO6WW	Description
HPC Compiler Support Services		
7S090014WW	S924	NVIDIA HPC Compiler Support Services, 1 Year
7S090015WW	S925	NVIDIA HPC Compiler Support Services, 3 Years
7S09002GWW	S9UQ	NVIDIA HPC Compiler Support Services, 5 Years
7S090016WW	S926	NVIDIA HPC Compiler Support Services, EDU, 1 Year
7S090017WW	S927	NVIDIA HPC Compiler Support Services, EDU, 3 Years
7S09002HWW	S9UR	NVIDIA HPC Compiler Support Services, EDU, 5 Years
7S090018WW	S928	NVIDIA HPC Compiler Support Services - Additional Contact, 1 Year
7S09002JWW	S9US	NVIDIA HPC Compiler Support Services - Additional Contact, 3 Years
7S09002KWW	S9UT	NVIDIA HPC Compiler Support Services - Additional Contact, 5 Years
7S090019WW	S929	NVIDIA HPC Compiler Support Services - Additional Contact, EDU, 1 Year
7S09002LWW	S9UU	NVIDIA HPC Compiler Support Services - Additional Contact, EDU, 3 Years
7S09002MWW	S9UV	NVIDIA HPC Compiler Support Services - Additional Contact, EDU, 5 Years
HPC Compiler Premier Support Services		
7S09001AWW	S92A	NVIDIA HPC Compiler Premier Support Services, 1 Year
7S09002NWW	S9UW	NVIDIA HPC Compiler Premier Support Services, 3 Years
7S09002PWW	S9UX	NVIDIA HPC Compiler Premier Support Services, 5 Years
7S09001BWW	S92B	NVIDIA HPC Compiler Premier Support Services, EDU, 1 Year
7S09002QWW	S9UY	NVIDIA HPC Compiler Premier Support Services, EDU, 3 Years
7S09002RWW	S9UZ	NVIDIA HPC Compiler Premier Support Services, EDU, 5 Years
7S09001CWW	S92C	NVIDIA HPC Compiler Premier Support Services - Additional Contact, 1 Year
7S09002SWW	S9V0	NVIDIA HPC Compiler Premier Support Services - Additional Contact, 3 Years
7S09002TWW	S9V1	NVIDIA HPC Compiler Premier Support Services - Additional Contact, 5 Years
7S09001DWW	S92D	NVIDIA HPC Compiler Premier Support Services - Additional Contact, EDU, 1 Year
7S09002UWW	S9V2	NVIDIA HPC Compiler Premier Support Services - Additional Contact, EDU, 3 Years
7S09002VWW	S9V3	NVIDIA HPC Compiler Premier Support Services - Additional Contact, EDU, 5 Years

Auxiliary power cables

The RTX 2000E GPU does not require an auxiliary power cable.

Regulatory approvals

The RTX 2000E GPU has the following regulatory approvals:

- RCM
- BSMI
- CE
- FCC
- ICES
- KCC
- cUL, UL
- VCCI

Operating environment

The RTX 2000E GPU has the following operating characteristics:

- Ambient temperature
  - Operational: 0°C to 50°C (-5°C to 55°C for short term*)
  - Storage: -40°C to 75°C
- Relative humidity:
  - Operational: 5-85% (5-93% short term*)
  - Storage: 5-95%

* A period not more than 96 hours consecutive, not to exceed 15 days per year.

Warranty

One year limited warranty. When installed in a Lenovo server, the GPU assumes the server's base warranty and any warranty upgrades.

Related publications

For more information, refer to these documents:

- ThinkSystem and ThinkAgile GPU Summary:
  https://lenovopress.lenovo.com/lp0768-thinksystem-thinkagile-gpu-summary
- ServerProven compatibility:
  https://serverproven.lenovo.com/

Related product families

Product families related to this document are the following:

- GPU adapters

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This document, LP2207, was created or updated on October 6, 2025.

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